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SOME VIEWS ON GENERAL PRACTICE

M. L. A. AUERBACK, 5T2

TODAY, NEARLY 85 PERCENT of all medical school graduates eventually become general practitioners. Realizing that most students are unaware of the nature of general practice, the Medical Alumni Association of the University of Toronto has sponsored annually, for the past three years, panel discussions on general practice for final year medical students, internes, and members of the profession. These discussions, under the chairmanship of Dr. V. F. Stock, have attempted to answer many questions asked by students about general practice, and to provide a broad picture of this field of the profession. The following article is a summary of the opinions of the physicians, most of whom were either urban or rural general practitioners, who participated in the discussions.

DEFINITION

The medical profession has, as yet, no exact definition of *general practice*. One physician suggested that it includes everything but major surgery, and specialties like Ear, Nose and Throat; another, that it embraces everything which a trained, experienced practitioner is capable of doing. The final opinion was that a general practitioner's standard should be to do what he would want

done if the patient were a member of his own family.

TIME OF DECISION

A student is advised to decide in his fourth or final year whether or not he wishes to go into general practice. By then, he should be mature enough to evaluate his own motives, interests, abilities, and personality, and map out his expectations for the future. The decision, however, should not be influenced by someone else's success, nor by hope of great financial reward, but rather should be made on the basis of personal interest.

TRAINING

The feeling today is that the modern general practitioner should be as competently trained as the specialist. The physicians on the panel believed that if the interne after one year's rotation in a general hospital does not feel that he is adequately prepared for general practice, he should either associate himself with a good doctor, and learn to do things, or else take a second year of internship. Some of the doctors felt that this second year should be in surgery; others, that it should include difficult obstetrical cases, and Ear, Nose and Throat work. Mention was made that

currently at Toronto an opportunity is provided for post graduate training of would-be general practitioners by having a rotation of four months each of Medicine, Obstetrics, and Paediatrics. It was also pointed out that at the moment there is no place in Ontario where one can obtain completely adequate training in specific procedures of general practice; such centres as New York City and Chicago provide opportunities for the practitioner to get training in any line he desires, at any time of year.

LOCATION

The problem of where to start practice cannot be easily resolved. One doctor felt that it is no handicap for the new physician to begin practice in his home town, a place where he has been known all his life; another suggested that he should choose a place where the population is in good circumstances, and where he would like to live and bring up his family. It was pointed out that both the Canadian and the Ontario Medical Associations frequently receive letters from towns or counties offering certain inducements to physicians willing to settle in the locality. One doctor pointed out the advantage of the small town as a place where one can be a "fair sized frog".

SCOPE AND MANAGEMENT

The scope of general practice seems to depend to a great extent upon the locality. General practitioners in urban communities tend to be internists, and do less surgery than their rural contemporaries. Both groups, however, have fairly extensive obstetrical practices, ranging from 30 to 150 cases a year, with each case averaging \$30 - \$40 in

rural areas, and \$50 - \$60 in urban. While it is believed that general practitioners should be capable of handling such surgical problems as fractures, tonsillectomies, appendectomies, and herniotomies, it is usually the rural, rather than the urban, practitioner who does so, the reason being that surgeons and other specialists are more readily available in cities. While most physicians have hospital facilities reasonably close at hand, yet many own such pieces of equipment as portable X-Rays, worth around \$1,000, and ECG's, costing approximately \$650.

The ways in which a general practice should be managed cannot be stated dogmatically. Some of the practitioners on the panels limit themselves to a number of house calls, and afternoon appointments only; others, to both morning and afternoon appointments. Nearly all agreed that patients can be trained not to call outside working hours; on the other hand, it was pointed out that often it is the person who needs it most who delays his call for attention till morning.

It is often advisable for new practitioners to have offices in their homes initially, whereby they not only keep down expenses, but also are able to deduct from income tax a part of the money needed for the operation of the house. Later, after his economic footing becomes more secure, the physician should have his office away from his home. In much the same vein, the doctor's wife (most of the panel doctors advise the young physician to marry when he starts practice) can take his calls initially, but later can be supplanted by a secretary or nurse.

The physician can expect his income to reach anywhere from \$2,000 to

\$4,000 net the first year, and to rise to approximately \$8,000 after the practice is established. About 20 to 30 percent of gross income covers expenses; some doctors consider that 8 percent should take care of bad debts. As for fees, the usual charge is \$4.00 initially, and \$3.00 for succeeding calls. One doctor suggested, however, that it is better to charge, and receive fifty cents, than to have \$2.00 permanently on the books.

RELATIONSHIP WITH OTHER DOCTORS

The relationship of a general practitioner to other doctors, particularly specialists, is an important consideration. Some physicians find that initially, when they settle in a new locality, the other doctors are cool. However, tolerance, cooperation, and good feeling are the rule. In regard to specialists, some doctors advise the practitioner to send a note to the specialist telling that he is forwarding the patient to him. Unless this is done, the specialist will often be unaware that the patient has been referred to him by the general physician. In many cases, the general practitioner makes the diagnosis, assists at the operation, and looks after the patient post-operatively. In settling accounts, the patient is presented with individual bills from each of his operative attendants, physician, surgeon, and anaesthetist. It was emphatically pointed out by the panel that there is every likelihood that the patient, after getting specialized treatment, will return to his own doctor; patients, as a rule, do not readily change their allegiance.

GROUP PRACTICE

Group practice is a relatively new type of medical organization. Initially,

it usually consists of two men, preferably a senior and a junior, and it grows in the direction determined by the requirements of the locality. It has been suggested that the optimum number in a group is six, three being general practitioners, and three being specialists in medicine, surgery, and one other specialty. The group decides on the ratio of payment to members; usually the surgeon gets the most because his work is more responsible and difficult.

Group practice offers several distinct advantages: each man gets nights off, and adequate holidays; the opinion of the group can be sought in difficult cases, thereby ensuring better treatment; equipment beyond the means of a single doctor can be procured by the resources of all; and finally, the physicians are allowed time to attend post-graduate courses and medical meetings.

It is important that during the formation of a group its motives be defined and subscribed to by each member. Personal incompatibility, even among the wives of the practitioners, has disrupted more groups than any other factor; the *prima donna* has no place in such an organization, and is better off practising alone.

OTHER ACTIVITIES

A doctor should take an active part in the life of the community in which he lives, be it as head of the local Red Cross chapter, Sunday School superintendant, or member of the school board. Besides, he should set aside enough hours to read his journals, and stay up to date with medical progress. The most favoured journals among the panel members were those of the C.M.A. the A.M.A. and the B.M.A. Finally, the practitioner should have enough free

time to have some home life. To obtain these periods of liberty, the doctor can often arrange with other physicians to take his calls at certain times, for which he reciprocates in a like manner. Nevertheless, most physicians find it hard to have free time, with the result that their wives, as one doctor put it, "have a rough time of it".

CONCLUSION

Most doctors in general practice find it a most satisfying career, chiefly because the work is so varied and free from monotony. It is a field which enables a physician to get closer to his patients, to become their close acquaintance or friend. The longer the doctor is in general practice, the more the patients come to him with problems that are not always medical, proving that they look upon him as someone im-

portant to them. True, the doctor is often on twenty-four hour call, but this seems but a small price to pay for such tangible gains. It should be remembered that it is the general practitioner, the family doctor, who forms the first line of defence of the patients' health.

There are men and classes of men that stand above the common herd: the soldier, the sailor and the shepherd not unfrequently; the artist rarely; rarelier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilisation; and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race.

Robert Louis Stevenson

ACKNOWLEDGEMENT

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GAITS

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NEUROLOGIST'S VIEWPOINT

FROM A NEUROLOGIST'S point of view, a study of "gait" should not be limited to observation of the physical phenomena pertaining to the lower back and legs, but should properly include an assessment of the attitude and movements of the entire person during locomotion. A diagnosis should rarely or probably never be made by observation of the gait alone. Often times, however, it will give invaluable clues to the nature of the ailment and in many cases it may afford the only clue to diagnosis. The neurologists of the English School at Queens' Square brought this intricate art of observation to a masterly level. No more fascinating demonstration of skill in medicine could be imagined than to watch Gordon Holmes, Risian Russell, James Collier, Kinnier Wilson, or W. J. Adie, record their detailed observations that had seemingly been made in a few seconds. These physicians always emphasized that, as the patient walked into an office or consulting room one should observe the following regions:

1) **FACIES**—width of the palpebral fissures, equality and size of the pupils, the axes of the eyes, the involuntary movements and tremors, and lastly, the emotional expressions of pain, discontent or euphoria.

2) **GENERAL BODILY ATTITUDE** — whether it be of flexion, or of scoliosis, or other deviations from the normal.

3) **NECK**—position in which the head is held, the presence of tremors, the lines of the sterno-mastoid muscles.

4) **ARMS**—their position in relation to the trunk, whether they are swung or not, the presence of tremors.

5) **LEGS**—the attitude of flexion, extension or rotation; the length of the stride; the presence of tremors or involuntary movements, whether they are spastic or flaccid.

The patient is first observed as he walks towards you and later should be observed "in puris naturalibus" or while wearing only a loin cloth. At first it may be necessary to have the patient walk back and forth several times but with training it is amazing how rapidly the powers of observation can improve for even minute details.

PARKINSONISM

The appearance is typical in advanced cases but in the early or unilateral case, careful observation is necessary. There is rigidity which makes the face immobile (frequent winking, absence of the usual play of emotional movements); causes the neck to be held stiffly forward, as if the head and neck were one piece with the trunk; gives the trunk a stooping attitude with rounded shoulders; prevents the arms from being swung when walking, and often causes them to be carried with the elbows semiflexed and held against the sides; makes the gait devoid of spring and elasticity, consisting of short steps, feet raised but little from the

floor, with a tendency to stumble easily. Propulsion, retropulsion and lateropulsion and festination may be present. And lastly, the slow, rhythmic, coarse tremor of the hands and forearms is unmistakable. The unilateral cases may superficially resemble hemiparesis.

HEMIPLEGIA

The face may show little asymmetry except during voluntary movements, but the lines of the face may be lessened on the affected side. The neck and trunk are not affected. The arm is not swung in walking and is adducted and internally rotated; the elbow is flexed and pronated; the wrist and fingers are flexed. The leg is held in extension with the foot in the equinovarus position. As the toes thus tend to catch on the ground, the leg is circumducted at the hip during its advancement while the pelvis is slightly tilted towards the opposite side.

SPASTIC DIPLEGIA

The thighs are rotated inwards, the knees closely pressed together, the knees slightly flexed or extended, and the feet maintained in the equinus or the varus position. The gait is stiff and clumsy, and in severe cases, is typically cross-legged or scissors-like. Each leg seems to be jerked forward in a circular swing, in very short steps.

TABES

Ptosis is frequent and small, fixed pupils even more so. The patient is commonly pallid and thin. The neck, trunk and arms are not remarkable. He walks on a wide base with his eyes on the ground, raises his feet too high and throws them too far forward, slapping them down forcibly with the entire sole

striking the ground at once. Later he reels like a drunkard.

SUBACUTE COMBINED DEGENERATION

The gait is in no wise different from that seen in the tabetic except that the legs are spastic and not flaccid.

DEMENTIA PARALYTICA

Facial tremors are common and there is a peculiar immobility of the face, often called "flattening". The pupils are frequently small and do not react to light. Fine tremors of the fingers may be noticed. They have a listless, tired gait with no springiness. They may appear disinterested, or may walk in jauntily and, as Doctor Adie used to say, with a derby hat on their head even though a class of students be present.

MARCHE A PETIS PAS

This is a mild form of diplegic gait which occurs in old people who have bilateral cerebral arteriosclerosis. The stride is abnormally shortened; the legs are stiffened, but there is no actual scissor-gait.

SPASTIC PARAPLEGIA

The patient walks stiffly, in shortened strides, with the toes clinging to the ground. The toes of his shoes are worn. As the toe catches the ground, ankle clonus may occur, causing sudden repeated jerks of the entire limb. He turns slowly, stumbles easily, and jerks each leg forward. Scissor-gait does not occur.

PSEUDO-HYPERTROPHIC MUSCULAR DYSTROPHY

The child begins to walk late, falls easily and arises with difficulty. He walks with the legs far apart and the upper part of the trunk is thrown back

so that the most prominent vertebra is in a position posterior to the sacrum. His attitude is compensatory for the forward tilting of the pelvis due to the gluteal muscles. To clear the ground with the advancing foot the body is inclined to one side and then to the other so that a "waddling" gait results. This has also been called "aldermanic" gait and may be confused with the gait observed in:

- 1) Congenital dislocation of the hip.
- 2) Spondylolisthesis.
- 3) Amyoplasia congenital.

CEREBELLAR DISEASE

In unilateral cerebellar disease, the posture of the head is altered so that the occiput is tilted toward the shoulder of the side opposite to the lesion, and the face is turned slightly to the side of the lesion. The shoulder on the side of the lesion tends to sag below the level of the other shoulder. In walking there is a tendency to sway and deviate to the side of the lesion. Other manifestations of dysmetria may be present, such as a tendency to walk on a wide base, to raise the legs unduly and to stomp them down heavily. In bilateral lesions the gait is reeling or staggering with an occasional sudden lurch to one side or the other.

HYSTERIA

The gait in hysteria may imitate almost any gait, but very rarely is it a faithful imitation. Paralysis affects generally the left side of the body and is common in the legs. Usually the movements are greatly exaggerated, there is often an effort out of proportion for the required movement, and the patient's face will show an emotional content and effort or pain which is also out of pro-

portion to the effort. Frequently the gaits are fantastic, elaborate, exhausting and bizarre. The limb or limbs may be paralyzed, flaccid or spastic.

ORTHOPAEDIST'S VIEWPOINT

Gait is acquired instinctively. Equilibrium is unstable at first, falls are frequent, and not until after two years is stability attained and the gait characterized by gentle undulation. Walking, as in the normal gait, is dependent upon co-ordination of muscles throughout the body. Free joint motion is imperative, and a healthy central nervous system ensures stability through muscular control and joint-sense. Well-formed feet, good postural tone, and clear vision are other necessary factors in normal gait.

Exaggeration of normal phases causes peculiarity of gait. The sailor raises the pelvis high on the standing side and drops it low on the swinging side. The return swing is restrained in funeral gait to increase the duration of the step. Loss of postural tone and inco-ordination of muscle from enforced bed rest necessitate a wider supporting base line, so the legs are spread widely apart; the child learns to walk in this fashion. Habitual malposture is characterized by increased lumbar lordosis and dorsal kyphosis with the head held forward and down; the abdomen is relaxed and there is a lack of tone in the gait and slight flexion at the knees. The gait of fatigue resembles that of malposture, and has been described as the most honourable physiological variation.

PATHOLOGICAL GAIT

The cause of this may be due to altered statics, dynamics, or a combination of both. An example of altered

statics is the shortened limb which causes a greater rise and fall of the centre of gravity in the sagittal plane. If due only to shortening of bone, as in mal-union with healthy musculature, or to flexion contracture, there will be a minimum of increase in fatigue. Should the shortening, however, be the result of infantile paralysis, the major factor will be weakened or paralyzed musculature and the onset of fatigue will be early. Other examples of altered statics are: bowing due to disease or injury, coxa vara, static flat foot, ankylosis or stiffness of joints.

Instability produces altered dynamics. This occurs in poliomyelitis, congenital dislocation of the hip, non-union of fracture of the femoral neck. Frequently instability is accompanied by altered statics, *e.g.*, paralysis of the hip abductors in anterior poliomyelitis with a short lower extremity. In congenital dislocation of the hip, the head of the femur lacks the support given by the acetabulum and moves upwards and backwards on the ilium. The stabilizing influence of the Gluteus Maximus is gone and there is shortening. The head and shoulders bend far toward the affected side and if both hips are involved, the gait becomes a waddle. This occurs to a less degree in coxa vara where there is also shortening of the lever arm with insufficiency of the glutei.

ANKYLOTIC GAIT

Stiffness in the hip joint necessitates increased motion of the pelvis in both elevation and transverse rotation. Should one or both hips be ankylosed, pelvic rotation entirely replaces swing and the gait becomes a shuffle. This is laborious and the patient tires easily.

PARALYTIC GAIT

1) **GLUTEUS MAXIMUS**—The support given to the pelvis by this muscle to keep the body erect is lost. The trunk muscles contract strongly to prevent forward flexion at the hip and a backward thrust occurs carrying the centre of gravity posteriorly. This is obviously an exceedingly tiring type of gait.

2) **GLUTEUS MEDIUS**—In the normal individual, when walking or standing on one leg, this muscle contracts strongly on that side and raises the opposite side of the pelvis. If the muscle is paralyzed and the lever arm lost, the pelvis drops to the opposite side and the gait is a waddle.

3) **QUADRICEPS**—This allows jack-knifing at the knee. If the Gluteus Maximus and Triceps Suræ are active, a fairly normal gait is possible. With the trunk slightly flexed, making use of gravity, the Gluteus Maximus acting from above prevents flexion of the hip and produces extension of the knee with the aid of the Soleus acting upon the tibia from a fixed point below. If the Triceps Suræ is also paralyzed, the trunk must be further flexed and gravity and the Gluteus Maximus alone stabilize the knee. As flexion of the knee is dangerous, the step is shorter and a limp occurs. With paralysis of the Gluteus Maximus, the trunk can no longer be flexed as there is no hip extensor to balance it, so a lurching gait follows with the body bent backwards and the knee held straight. An attempt to gain added stability is made by an outward rotation at the knee, thus locking it. Occasionally in Quadriceps paralysis the hand of the same side is pressed firmly against the anterior aspect of the mid-

thigh accompanied by flexion of the trunk.

4) EXTENSORS OF THE FOOT—Paralysis here produces a foot-drop and the leg is lifted high, resembling the gait of early ataxia. When the Gastrocnemius is paralyzed a take-off is impossible and heel-walking occurs with marked limp.

FOOT CONDITIONS

A few of these causing alteration in gait are: painful callus, metatarsalgia, extreme degrees of pes plannus or pes cavus, the talipes, hallux rigidus, hammer toe, inflamed bursae.

LOW BACK CONDITIONS

Certain of these such as sciatic scoli-

osis accompanied by leg pain, whether referred or due to peripheral neuritis, will cause a limp.

GAIT WITH PROSTHESES

If the amputation of the leg below the knee has left a stump of sufficient length to serve as a lever arm, the gait approaches the normal. Pronation and supination, which occur in the subastragaloid joint, are lacking in the usual prosthesis and walking on uneven ground is difficult. In amputation above the knee, the patient walks with the trunk slightly forward so that the line of gravity will fall in front of the knee, as stability at this joint is provided only by elastic straps.

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A PROBLEM IN DIAGNOSIS

P. BEACOCK, 5T1

PRESENTATION OF CASE

H.T., A SIXTEEN-YEAR-OLD male, was admitted to the Medical Service of the Toronto General Hospital on the 19th of October, 1950. His presenting symptom was shortness of breath on running twenty yards. In 1946 the school doctor noted a precordial thrill which was thought to be rheumatic in origin by a consultant.

Over the years his mother thought him to be more irritable than her other two children and she put this down to poor health. However, he was not cyanosed at any time, and carried on normally at the local school and on his father's farm. In the summer of 1947 he had weekly nosebleeds which he stopped himself. In the fall of the same year, while he was in bed with a chest condition thought to be a virus pneumonia, his weight fell from 110 to 95 pounds. About four times a year since 1948 his heart did beat very rapidly for a few seconds and this made him "catch his breath." After working on the farm all this past summer his weight decreased from 130 to 110 pounds and has remained at 110 pounds in hospital.

There was no history of haemoptysis or serious respiratory disease, although he did have sticky yellow sputum with winter chest colds. There were no rheumatic symptoms with the possible exception of nosebleeds, and these were not associated with fever. Other systems were not remarkable.

Physical examination on admission revealed a very tall thin boy whose eyes

were staring and fingers elongated (arachnodactyly). Temperature and respiratory rate were normal. Pulse rate was eighty, regular and collapsing in character; blood pressure was 140/40. There was arterial pulsation in the neck, thorax and epigastrium; neck veins were not engorged. A diffuse slapping apical impulse was felt in the sixth interspace in the anterior axillary line. To the left of the sternum were two distinctly separate thrills, both continuous and accentuated in systole. The lesser thrill was localized in the second interspace, and the greater radiated from the third and fourth interspaces. The heart sounds were best heard in the tricuspid area, being elsewhere masked by machinery murmurs.

Laboratory examination revealed a normal urinalysis. Haematological values were normal. Fluoroscopy showed both ventricles enlarged, aorta small, and lung hilum congested but not "dancing". Electrocardiogram was interpreted "left ventricular hypertrophy not in keeping with a patent ductus". Intracardiac catheterization revealed a normal oxygen content on the right side of the heart, and a right ventricular pressure of 100/0 mm. Hg. (normal 25/0 mm. Hg.).

At exploratory operation the surgeon tied a small patent ductus, drew off blood from the pulmonary artery (it was 95 per cent saturated with oxygen) and noted that a thrill remained. The patient suffered no respiratory distress following operation.

CASE SUMMARY

A boy of sixteen presents with a history of shortness of breath, occasional palpitations, and no cyanosis. The heart was enlarged on both sides and gave origin to two thrills. The oxygen saturation of the pulmonary artery was extremely high. There was pulmonary hypertension. After the ductus was tied a thrill remained and the patient suffered no increased respiratory distress.

DIFFERENTIAL DIAGNOSIS

Since one in two hundred heart cases over two years of age is congenital, each one of us will meet at least one. It is important not to miss this single case because certain types can be repaired surgically, namely,

1. Simple patent ductus.
2. Adult coarctation of the aorta.
3. Tetralogy of Fallot.
4. Some septal defects.

Congenital heart disease may be confused with rheumatic heart disease on the basis of age, symptoms and signs. The cardinal symptom is dyspnoea, with pain and palpitation in that order. Cardinal signs when present are heart enlargement, cyanosis, thrills and murmurs. Cyanosis is usually accompanied by polycythaemia and clubbing. However, differentiation is easy when a characteristic thrill or cyanosis is present from birth.

Once the general diagnosis of congenital heart disease has been established, the lesion is classified after the fashion laid down by Maud Abbott, who correlated the clinical and pathological findings of a thousand cases. In brief these classifications are:

CLINICAL CLASSIFICATION

ACYANOTIC (NO SHUNT)

1. Adult coarctation of the aorta.
2. Semilunar valve cusp anomalies.
3. Aortic and subaortic stenosis.

TRANSIENTLY OR TERMINALLY CYANOTIC (SHUNT)

Late right sided hypertension sends blue blood through the shunt into the systemic circulation.

1. Patent ductus.
2. Auricular, ventricular or bulbar septal defects.

CYANOTIC (MOST BLOOD BYPASSES LUNG)

1. Pulmonary stenosis with shunt as in the Tetralogy of Fallot.
2. Transposition of the arterial trunks.
3. Absent bulbar septum.

PATHOLOGICAL CLASSIFICATION (DEFECTS USUALLY MULTIPLE)

In order of frequency as found in the thousand cases reported by Maud Abbott.

1. Auricular septal defects (373).
2. Interventricular septal defects (274).
3. Simple patency of the ductus arteriosus (242).
4. Pulmonary stenosis (151).
5. Semilunar valve cusp anomalies (146).
6. Adult coarctation of the aorta (105).
7. Anomalies of the great veins (94).
8. Complete transposition of the arterial trunks (74).
9. Bulbar septal defects (56).

ANALYSIS OF CASE

Absence of cyanosis places the case in either group I, Acyanotic, or group II, Terminally Cyanotic. The inferior thrill was clinically that of a septal defect. This narrows the diagnosis to group II (Shunt). The ductus has been tied off, so the shunt must be septal. The septal defect must be bulbar because (1) the oxygen saturation of the right heart is normal, (2) and the oxygen saturation of the pulmonary artery is 95 per cent. One possibility that must be considered is that the tip of the catheter may not have sampled a current of red blood at the base of the right ventricle making the oxygen saturation a false normal.

PROVISIONAL DIAGNOSIS

1. Bulbar septal defect allowing communication between the aorta and pulmonary artery.
2. Patent ductus arteriosus treated surgically.

SUMMARY

A case of congenital heart disease is presented and the problem of diagnosis is discussed.

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EDITORIALS

ARTS AND LETTERS EMBRACES THE OSLER CLUB

It has been evident for the past few years that the open meetings of the Medical Arts and Letters Society are received with waning enthusiasm; at least, that is the case if one is to judge from the decreasing size of the audiences. It is my purpose to consider the causes of this situation and to outline proposals regarding the future of the Society.

During the war it was felt that the broadening effect of a university education was being jeopardized because medical students were plunging through their professional training on the "accelerate course" which offered little opportunity for the investigation of interests other than those of a purely medical nature. In an effort to fill some of these gaps a number of undergraduates banded together to form, with the counsel of some of the faculty, the Medical Arts and Letters Society. They sponsored talks by eminent authorities on a variety of non-medical subjects such as politics, economics and liberal arts, with such success that their function assumed university-wide proportions and the Society was known as the University Arts and Letters Society!

The end of the war was accompanied by a tremendous increase in the size of the student body and a corresponding increase in the number of extra-curricular activities. Many of the arts colleges established their own arts and letters clubs. Hart House and S.A.C. functions were augmented and assumed far greater significance. Thus, the reasons for which the Medical Arts and

Letters Society was originally formed were dissolved; we now find that we are competing for the student's time with much more powerful attractions, whereas our precept was to offer him diversion.

It is with this consideration in mind that an endeavour is being made to offer greater opportunity for active participation in events of a cultural nature. The Glee Club has been brought into the realm of Arts and Letters. A Discussion and Debates Club has been established.

On the suggestion of Dr. Wasteney, an Osler Club is being formed, the aim of which is to discuss at informal evening meetings about once every three or four weeks, the history of medicine and the aspects of liberal arts that are of interest to us from a medical viewpoint. Membership in the Club is open to every person in the faculty. It is proposed that one or two members should prepare papers to be delivered at the meetings and on their conclusion a discussion should ensue. Various faculty members will be invited as guest speakers and refreshments will mark the end of the evening. It is our endeavour to model the new Club after its counterparts in the other Canadian and American medical schools; we expect to hold a banquet at the end of the year and present Osler Keys and Scrolls to those graduating members who have made significant contributions to the Club.

The first meeting of the Osler Club will be held in January when arrangements regarding the date and place are completed.

R. H. D. FARMER,
Chairman of Arts and Letters.

THE RIGHT CRITERION

Contributors to Medical Society funds expect an equal share of whatever benefits there are to be gained during the course of the year. This precept is the basis of a consideration of the use of undergraduate funds in the projects controlled by our executive student body.

In the last two years, two projects have been brought within the scope of the Medical Society. Both have been planned and carried out by the Medical Society Executive, upon its own authority, without consultation with the students it represents. Both have enjoyed a period of success but have suffered financial losses.

Panacea, with Medicine the host to the whole campus, was a commendable plan and was accepted cheerfully because the motive was unselfish. The result was an excellent evening of entertainment which could, however, cater to but a small portion of a large socially-busy campus, and so could not fulfill its aims. Moreover, the people of Medicine whose funds were being used did not support the dance to the full. Panacea lost money in its second year and now we must terminate it.

One must not lose sight of the success of Panacea in its inaugural year. The present picture is that the novelty is gone, and the students would be better served if their funds were spent for a more personal gain. We must decide if the money and effort could be directed with advantage to a strictly medical function.

Palinodia, depicting the Medical Faculty in a post-war flurry of varied activities, was a year book of broad scope and was enthusiastically received by people who were directly concerned

with the activities illustrated. Subscription was not enthusiastic and complete, however, and a substantial financial loss was realized in its publication.

With costs of production reduced this year through technical and editorial changes, *Palinodia* may become a self-sufficient project. Nevertheless, there is no indication that the support, as measured by the number of subscriptions, will be greater. We must decide if the money and effort involved are being directed only to a small group of interested people.

To discuss *Panacea* and *Palinodia* in this way may suggest a concern on the part of your editor regarding wholly financial matters. On the contrary, loss

or gain of money is a secondary consideration. Of primary interest in the individual student and the way in which he or she is served by an elected executive body.

The Medical Society must cater to every one of its members, and in such a way that its projects get maximum participation. Further, the executive body should not sponsor an activity unless all the students are going to profit directly from the use of their funds. The query to satisfy before embarking on a new venture should be, "Does it warrant the money spent, the time and effort expended?"; and the criterion of warranty should be—maximum student participation.

*The Editorial Board and Staff of the University of Toronto
Medical Journal takes this opportunity to wish all the
subscribers, advertisers and contributors*

A HAPPY AND PROSPEROUS NEW YEAR

HUMANISM AND MEDICINE

H. B. VAN WYCK*

PART XV

BRITISH CLINICAL MEDICINE IN THE 17th CENTURY AND THOMAS SYDENHAM

BEFORE THE CIVIL WARS of the Cavaliers and Roundheads, the Physicians had been a small class narrowly limited by the College of Physicians and bound largely to the traditions of Galenical medicine. The revolution in physiology led by Harvey seemed to make little change in practice. Physicians tended to be of the formal and pedantic type similar to those who, under the direction of Thomas Linacre had founded the Royal College of Physicians in the previous century. The only other schools of importance were those of the Chemical, or Spagyrical School—comprising those who considered themselves the disciples of Paracelsus and Van Helmont. In England, these were a small and discredited group, ostracized by the College of Physicians. One of their distinguishing marks was the use of mercury, which they called by its German name “Quecksilber”. This gave rise to the epithet “quack”, by which the more august fellows of the College of Physicians stigmatized their rivals. With the upheaval of thought and custom that followed the Civil Wars, the general disregard of traditional opinion gave a greater scope to the unorthodox practitioners and left the way open for defiant and unbridled license in methods of practice. Even Astrology became respectable.

After the Restoration, although the regular physicians attempted to restore some uniformity, opinions as to method of practice became more conflicting than ever. The Foundation of the Royal Society brought keen scientific minds together and these were unlikely to conform to traditional doctrines of any kind. These new investigators, who seemed to the orthodox to have too wide a tolerance for novel methods and theories, including a partiality for quacks and irregulars, were dubbed contemptuously “virtuosi”. Among these were men as eminent as Robert Boyle, who took great interest in medical problems and encouraged the early efforts of Sydenham.

Another formidable influence in producing a chaotic diversity of medical practice was the personal bias of Charles the Second, who gave his patronage to quackery of every sort. In addition to his regular physicians, he lent his favour to disreputable vendors of secret remedies and the writers of scurrilous pamphlets. These were diatribes against the reputable medical figures of the day and the College of Physicians itself. It was no doubt characteristic of the Merry Monarch to chuckle over tasteless jokes at the expense of the very institution of which he was the official patron. The King's

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own personal physician, Sir Thomas Frazer, was notorious for practices, which, if Pepys is to be believed, were crudely unethical and verging on the criminal. The cynical occupant of the Stuart Throne dispersed patronage with flagrant disregard of merit; and, if England has reason to be grateful to Charles for his services to science which he rendered by his lavish, if inconstant interest in science and his patronage of the Royal Society, the Royal influence did much to lower the dignity of the medical profession.

On the other hand, this enigmatic Monarch supported warmly the limitation of the Fellowship of the College of Physicians and Surgeons, to Doctors of Oxford and Cambridge. No longer could the College welcome graduates from Padua, Montpellier, and Paris without imposing upon them the requirements of an English university examination. This was done, not so much to maintain a high standard in the College as to exclude non-conformists, Roman Catholics, Presbyterians, from public office. Amid all these conflicting political and social currents, the honest physician had to find his way among quacks and sycophants—astrologers, water-casters, herbalists, nostrum pedlars—all of whom flourished unperturbed by the ineffectual laws which made efforts at control futile.

In addition to the spurious charlatans, there was disharmony between the physicians, surgeons and apothecaries, the surgeons not being allowed to prescribe for so-called "natural conditions" and the apothecaries' functions being limited at least in theory to compounding the remedies prescribed by physicians. Both the surgeons and the apothecaries stepped out of their field when

opportunity offered, the latter making lucrative use of the prescriptions which passed through their hands. Gideon Harvey, a contemporary lampooner whose satire was directed largely at the regular medical profession, reckoned that the apothecaries had fifty times as many patients as the physicians.¹ Indeed, many apothecaries practiced medicine openly and independently of physicians. "So what with virtuosi, the chemical quacks, royal favorites, surgeons, prescribing apothecaries, astrologers, bone empirics, midwives, and old "practical nurses", it was a motley rout of competitors that the honest physician had to contend with."²

Dr. George Wharton, an anatomist and physician of eminence, has left the advice he gave to a young man to persuade him from choosing medicine as a profession. He complains that swarms of quacks and virtuosi are invading the field of medicine, those, "who are most likely by their Jesuitisme and policy, English books, experiments and receipts in phisick, to fill all families of note in England with their stuff, to overthrow all our old settled and approved practice of phisick, especially in London: which is now miserably impoverished by its burning and building and desertion of trade, that they have scarce money for their present subsistence, little for phisick and phisitions, and like to have less hereafter. Soe that every one out of necessity and good husbandry must become their owne phisitions and make their owne phisick. For all our ladies and gentlewomen keeps and stores up receipt-books and closetts of medicines fitted for most occasions."

¹Gideon Harvey. *The conclave of physicians*. 1886.

²J. F. Payne. *Thomas Sydenham*. 1900.

"Besides, Phisick is too much overstocked with students graduated from the University. For I doe really believe it will easily appear that now there is in England 400 for one phisitian that was formerly: so that it is impossible but that their owne multitude must shortly ruine the profession without the plotts and envy of their enemies. He that begins the practice of phisick must resolve to be a perpetual slave and servant to the meanest and basest all the dayes of his life, and if he neglect one instant and committ one error, or speak the least word amisse, his fame and name is lost for ever to him; and if his patient dye, hath killed him for certain, by the view of the people. Upon the Phisitian is imposed taxes, polls, great charges for houses and servants and entertainments, more in this age than ever formerly;—Coaches, Jacks and charges expected,—feastings. He is never called to any but miserable patients, where the apothecary or surgeon or chymist have been tampering soe that commonly the phisitian is brought only to take away the scandall of killing him to himself. The phisitian is made that common jeare of the hunt, neglected, contemned, and reproached upon all occasions; and, which is worst, they will one reproach and scandalise another for his ill practize, which is very certaine and evident to all practizers."¹

These cynical references to the contemporary profession were from hostile pens and tend to make a modern reader forget the many unhonored and unsung, who carried on the high tradition of the healing art. It is more difficult for us to appreciate what Sydenham and his contemporaries achieved in scientific advance and understanding since the

rapid changes made with the co-operation of the sciences has produced a really modern medicine contrasted with which the professional practice in the 17th century of even its best exponents seems to us vague, uncertain, and futile. Professional training was rudimentary. Only occasionally did the graduates of the medical schools receive short internships. Unless they had studied abroad, the contemporaries of Sydenham were unlikely to have had hospital experience. Most of them learned the technique of their profession altogether at the expense of their unsuspecting early patients. According to Harvey, whose satire gives us at least a caricature in which there are elements of truth, the main factors in the establishment of the young doctor in practice were to have a good understanding with the apothecaries and to be seen regularly at Church. "The church door shall no sooner be opened but ecce Mr. Doctor, sitting in the most visible seat, Grave, Deaf, Dumb, and immoveable as if an Apoplexy of Devotion had seized him, out of which his Apothecary is to raise him by knocking at half-sermon at his pew-door to fetch him away post to a dying patient; by which means he draws the eyes of the whole congregation after him; but instead of going to the pretended House of Visitation they both drop into a cabaret, there to pass the fatigue of a forenoon Sunday. This knack of confederacy is to be repeated several Dominical days, until it hath made an impression of the people, that he is a man of importance, and of great Physick business".

There is no doubt that medicine followed far in the rear of the advancing natural sciences. The majority of the physicians were blind to the inevitable

¹J. F. Payne. Thomas Sydenham. 1900.

benefit to be derived from increasing knowledge of the biological sciences. Even Sydenham appeared to scorn anatomical studies.

It was in this age of the Restoration of the Stuart Monarch that a great figure in English medicine emerged, Thomas Sydenham. Born on September 10, 1624, in Dorsetshire, Sydenham received, when 24 years of age, his M.B. degree from Oxford and became a fellow of All Souls' College. Oxford had but little to offer the student of medicine. There was a Regius Professor who read a lecture twice a week on some passage in the writings of either Hippocrates or Galen. There was no clinical instruction in hospital. In anatomy, the statutes prescribed only one dissection in a year, if a body of a recently executed criminal could be found. The students, as we learn from Woods' Diary,¹ occasionally got news of executions in the vicinity of Oxford and made their own arrangements to get cadavers for dissection.

One case of a poor woman hung at Oxford brought greater fame to the celebrated Dr. William Petty, a lecturer in anatomy, than his anatomical prestige. When her body was brought to the dissection room, it was found that she was not dead but was enabled to recover fully by the assiduity and skill of Dr. Petty. This event was celebrated by several gentlemen of Oxford, including Christopher Wren, in Latin, French and English verse. This curiosity of medical history suggests that perhaps other similar cases had not such a favorable dénouement.

In this milieu, however, Sydenham obtained the meagre knowledge of an-

atomy with which he was obviously content—such an incomplete education was to be supplemented by more practical training at Montpellier, after a period of service in the Puritan Army as a Cavalry Officer. It has been assumed that Sydenham spent less than a year in the south of France. After the Restoration, Sydenham, immune to political reprisal by the Act of Indemnity, returned to London to practice, having been admitted a Licentiate from the Royal College of Physicians in 1663. It is probable that like many others, Sydenham was practicing without legal status, as the regulations were not strictly enforced during the Civil Wars and Commonwealth. He never became a fellow of the College. As he had not obtained his Doctors degree from Oxford, he was ineligible for election as fellow. In fact, years later, he did obtain his Doctorate from Cambridge in 1676. The explanation of his failure to obtain the degree at Oxford is in all probability political, as he had been on Cromwell's side during the wars; and, although Sydenham never complained of this a cause of his unpopularity, it is unlikely that his application for a degree at Oxford shortly after the Restoration would have been favorably received. Even the great John Locke was refused a medical degree at Oxford, obviously on political grounds; although he had the support of Lord Clarendon who was Chancellor of the University at that time. With such a feeling of prejudice against those who had espoused the Cromwellian party, Sydenham would have probably been similarly unsuccessful. To his friend, Dr. Andrew Broun of Edinburgh, he complained that "he had only gained the sad and unjust recompence of calumny and ignominy,

¹The Diaries of Anthony Wood. Published by the Oxford Historical Society.

and that from the emulation of some of his collegiate brethren, and others, whose indignation at length did culminate to that height, that they endeavoured to banish him, as guilty of medicinal heresies, out of that illustrious Society."

When Sydenham returned from Montpellier, he began his study of the epidemics of London. Shortly afterwards began the "Great Plague." This pestilence had appeared from time to time in England since the great epidemic of the 14th century. There had been serious out-breaks during the reign of Elizabeth and one in the first year of the reign of King James I in 1603. On this occasion there were over 33,000 deaths. It is probable that between these visitations, the plague was never entirely absent from London. It seemed to die out completely during the Civil Wars and England seemed exempt from its terrible enemy for 16 years until it returned in its most virulent epidemic form in 1664. The Puritans, who were quick to recognize the hand of an angered Jehovah, considered these visitations as a judgment on the people for sins of their Kings, and when, 4 years after the Restoration, the Great Plague returned, no doubt many Puritans continued to interpret these events in the light of Old Testament History. The Plague began in the autumn of 1664 at Yarmouth on the sea coast. The following spring, the epidemic burst upon London with terrifying violence, until by September 1665; 7,000 deaths were occurring weekly. The total number of deaths for this outbreak was officially given as 68,596 and as the population of London was about 400,000, approximately one fifth died of the Plague. The greatest mortality was in the year

1665, after which for a few years it declined to a vanishing point. Those who were able fled the City and Pepys records that on the 21st of June "all the town almost going out of town", the King and Queen joined in the hurried exodus. Sydenham's biographers have noted regretfully that he and his family retired to Dorset. It may be pointed out that the medical attendants of the poor were the surgeons and apothecaries; and it was remarked, when the epidemic was over, that the lower classes suffered much more than the wealthy and that few persons of wealth and distinction had died. As one of his biographers¹ has stated, "had the West End physicians remained, they would have found themselves almost in solitude among empty houses. Payne regrets that his hero had not remained to study the epidemic and enrich medical literature by the masterly account he undoubtedly would have been enabled to give. On his return to London, Sydenham states in his work on fevers, that the disease was still lingering, but with less virulence. His apparent success in treating the milder types led him to exaggerate the efficacy of his own therapy. His theory of the origin of the plague was the contemporary view that contagion was of little importance in comparison to atmospheric disturbances.

His first book, a small volume of 156 pages and about 17,000 words, he called "Thomas Sydenham's method of treating fevers based on his own observations"—"Thomae Sydenhami Methodus Curandi Febres, propriis observa-

¹J. F. Payne. Thomas Sydenham. 1900.

(In the preparation of this account of the English Hippocrates, free reference has been made to the excellent biography of Sydenham by J. F. Payne, a book which still remains one of the most authoritative on the subject.)

tionibus superstructa.” As were all Sydenham’s published works, this treatise on fever was written in Latin—most probably not by Sydenham himself. There was a prejudice against medical works in English; and an orthodox physician would have been accused, had he published in English, of pandering to the public and not to the profession. The book was dedicated to Robert Boyle, an eminent scientist who was interested in the investigation of natural phenomena, including medicine. Boyle was not popular with the contemporary physicians. He was looked upon as one of the “virtuosi”, whose work was regarded as being injurious to the medical profession. Boyle, however, had done much to encourage Sydenham and both men had in common an independence of thought and a passion for the investigation of nature at first hand. The preface is today of more interest to the modern reader than the content of Sydenham’s work, as it displays the ethical elevation characteristic of the man and remains a valuable tradition of English clinical medicine:—“whoever applies himself to medicine ought seriously to weigh the following considerations. First, that he will one day have to render an account to the Supreme Judge of the lives of sick persons committed to his care. Next, whatever skill or knowledge he may, by the Divine favour, become possessed of, should be devoted above all things to the glory of God and the welfare of the human race. Moreover, let him remember that it is not any base or despicable creature of which he has undertaken the cure. . . . Finally, the physician should bear in mind that he himself is not exempt from the common lot. . . . He will care for the Sick with more diligence

and tenderness if he remembers that he himself is their fellow Sufferer.” The book is remarkable in as much as it consists of Sydenham’s own observations. The treatment is mainly empirical and avoids both dogma and theory. Perhaps its chief value is its emphasis on the essential importance of clinical observation, principles which, in spite of the revolutionary changes in the pathology of disease which have occurred since Pasteur’s time, still obtain.

A contemporary exposition of the work appeared in the transactions of the Royal Society, dated May 6, 1666. This enables us to discover what his contemporaries thought of his views. The following quotations from these transactions illustrate this:—“In the Second Section he treats of the symptoms accompanying continued fevers, as phrensis, pleurisies, coughs, hiccups fluxes, etc. showing whence they are caused, and how they are to be cured. . . . “To all which he subjoins a particular account of the iliac passion (or Ileus) esteemed by him to be sometimes a symptom also of fevers, not only discoursing of its cause, but adding also a very plain way of curing the same, and that not by the use of quicksilver or bullets (judged by him to be noxious), but only by mint-water, and the application of a living whelp to the patient’s stomach to strengthen the same, and to reduce it to its natural motion.”

Even in the last edition, appears this quaint prescription to apply a live puppy dog to the patient’s abdomen. “In the Third Section, he treats of intermittent fevers or agues. When he discourses of the cold and hot fits, and of the separation of the subdued aguish matter, he distinguishes ague into vernal and autumnal, takes notice that,

as there are very few continued fevers, so there are only quotidians and tertians in the spring; and only tertians and quartans in the autumn. He intersects, among other things, this note: That the period of fermentation in fevers, both continued and intermittent, is (if left to Nature's own conduct, and well regulated, if need be, by art) performed in about 336 hours or fourteen days, subducting in intermittent ones the hours of intermission, and counting five and a half hours for every paroxysm, and imputing the excursion beyond that time to the disturbance given to nature by the error of practitioners." "In the Fourth Section, the author in conformity with the custom of those who write of fevers, discourses of the Small-pox; and examining the cause of this sickness, and its universality, delivers his peculiar opinion of the blood's endeavouring a renovation or a new texture (once at least in a man's life), and is inclined to prefer the same to the received doctrine of its malignity. . . . For the cure, he advises, in short, to permit Nature to do her own work, requiring nothing of the physician, but to regulate her when she is exorbitant, and to fortify her when she is too weak. He concludes all with delivering a model of the method he would use for his only son, if he should fall into this sickness."

The "Method of Treating Fevers" was well and favorably known on the continent and Sydenham's reputation grew more rapidly throughout Europe than at home, although among his compatriots, men of the eminence of John Locke became his admiring supporters. The work, entirely revised and enlarged, appeared under a new title "Observationes Medicae circa mor-

borum Acutorum Historiam et Curationem". This was reprinted at Strasbourg and at Geneva. In general it may be stated that Sydenham carried on the Hippocratic tradition of painstaking, honest, and accurate observation. The work will always remain a medical classic as containing complete and remarkable descriptions of many diseases, in spite of the limitations of the knowledge of his time, in spite of the infinitely greater resources which modern pathology and the complexities of laboratory procedures have brought. Sydenham's emphasis on the importance of observation and direct clinical investigation did much to establish in the Hippocratic tradition fundamental concepts from which medicine must not depart.

Other writings similar in spirit and method were: the two "Epistolae responsoriae" (1680), one on "Epidemics" and one of the "Lues Venerea" (1682); an account of hysteria; and the famous description of gout, "Tractatus de Podagra et hydrope", (1683). The collected writings occupy about 600 pages in the Latin and appeared at Amsterdam in 1683 and, in the Greenhill edition, in London in 1864.

Sydenham's domestic life which was passed in a family circle including four generations was a happy one. His professional life, embittered as it was by the opposition of many of his colleagues, was nevertheless prosperous. Many persons of distinction were numbered among his patients although he complained to Andrew Broun that "by the whispering of some, he was balked the employment of the Royal Family, though he was before that called among them one of the first physicians." He became a sufferer from gout before his

thirtieth year and later on endured intermittently the pangs of renal calculus. Sometimes Sydenham had pupils living in his house among whom was Dr. Dovar, the buccaneer and physician, famous for his compounding of the well known "Do-var's Powders". Among his friends were Sir Hans Sloane, the distinguished naturalist and physician, President of the Royal Society and of the College of Physicians, and the founder of the British Museum; John Locke, Philosopher and Robert Boyle, the physicist. In his later years, Sydenham, although he had won the admiration of most of the eminent members of his own profession, was still embittered by the neglect and opposition which he had suffered throughout his career. In spite of failing health and frequent attacks of disability, he nevertheless persevered in practice and in writing to advance the science of his art. Among his last words, published in a fragment called the "Schedula Monitoria", one may read;—"although my advanced age and constitution, broken by continual maladies might have seemed rightly to demand release from

the labor of thought and intense meditation yet, I cannot refrain from endeavouring to relieve the suffering of others, even at the expense of my own health". After having outlined directions for the treatment of the disease from which he suffered, he concludes; "and this is about the sum of all I know respecting the cure of disease up to the day on which I write namely, the 29th of September 1868." So ended the life of altruistic service and heroism. Had Carlyle sought an exemplar among practitioners of medicine for his "Heroes and Hero Worship", the life of Sydenham would have been a happy choice.

His death occurred on December 29, 1689, at his home in Pall Mall. He was buried in St. James Church, Picadilly. As the original inscription which marked his grave disappeared, some time later the College of Physicians placed in the Church the following epitaph, written by Sir Henry Halford, which contains the fine phrase from Horace "medicus in omne aevum nobilis" (a physician famous for all time):

Prope Hunc Locum Sepultus Est
Thomas Sydenham
Medicus In Omne Aevum Nobilis
Natus Erat A.D. 1624
Vixit Annos 65.

Deletis Veteris Sepulchri Vestigiis
Ne Rei Memoria Interiret
Hoc Marmor Poni Jussit Collegium
Regale Medicorum Londinense A.D. 1810
Optime Merito.

ABSTRACTS

MEDICINE

The Treatment of Euthyroid Cardiac Patients with Intractable Angina Pectoris and Congestive Failure with Radioactive Iodine. Freedberg, Blumgart, Kurland, and Chamovitz: *Journal of Clinical Endocrinology*, 1270, Oct., 1950.

This study was made on 23 euthyroid cardiac patients who were unfit for gainful employment because of angina pectoris or cardiac failure which was not amenable to the usual forms of therapy. The patients were followed for a period of 3 to 22 months after they had been given radioactive iodine and in every case hypothyroidism and myxoedema developed. Of the 17 patients with angina, 11 received striking benefit. The other 6 were relieved, but the condition reappeared when thyroid was given to ameliorate the discomfort of myxoedema. The symptoms of congestive failure were relieved in 4 of the 6 patients in whom these were the major complaints. The toxic effects of the radioactive iodine which were observed in this series were: a mild thyroiditis in 18 of the patients, a severe thyroiditis in 1, and transient mild hyperthyroidism in 2.

G. E. GRAY

Preliminary Report of Clinical Experience with p-Aminosalicylic Acid. N. H. DeJanney, J. Cox, E. Grindell-Balchum: *Diseases of the Chest*, 5: 413-429, 1950.

Lehmann has shown para-aminosalicylic acid (P.A.S.) to be tuberculostatic in vitro. Clinically, the drug is used orally and topically. It is absorbed rapidly and almost completely from the gastrointestinal tract and 50% or more is excreted by the kidney, largely unchanged. Topically, P.A.S. has been applied to the skin and instilled into sinus tracts and serous cavities.

The authors present a series of 42 patients from 17 to 58 years of age. 40 had pulmonary tuberculosis and 2 tuberculous

meningitis. Of the former 5 also had endobronchial lesions. 88% were streptomycin failures, 90% had bilateral disease and there was cavitation in all but 6. The toxic manifestations, symptomatic benefit, extent of disease, duration of therapy related to effect on lesions and the effects of the drug on the disease are recorded in tabular form. Three case reports with X-ray photographs are given.

An effective non-toxic oral dose of 9.6 to 10.5 grams per day as uncoated tablets of the free acid was maintained. 67.5% of the 40 with pulmonary tuberculosis showed definite clinical and X-ray improvement directly attributable to P.A.S. The endobronchial lesions in all 5 cases healed. The 2 with meningitis had suffered relapses after 6 months of streptomycin therapy; the latter was ineffective when reinstituted. Both had remissions of symptoms with the addition of P.A.S. There is also clinical evidence that resistance developing to streptomycin alone is greater than that developing to streptomycin with P.A.S.

M. C. GERSTEIN

The Kidney and Cardiac Oedema. *The Lancet*, 11: 497, 1950.

Cardiac oedema cannot be explained as a hydrostatic effect due to increased venous pressure. The author briefly describes various theories which have been put forward to explain the oedema. The observation that a reduced renal blood flow causes active salt conservation has turned attention to the kidney as a source of the oedema. On a purely mechanical basis a reduced flow of glomerular filtrate might permit a greater reabsorption of salt. A hormonal mechanism is also indicated by the finding of an anti-diuretic hormone in the urine of some cardiac patients.

Even the cause of the reduced renal blood flow in cardiac congestion is not understood. Variations in renal blood flow do not necessarily parallel variations in cardiac output. The author suggests that

renal blood flow falls as part of a general splanchnic vasoconstriction caused by a fall in cardiac output. The importance of diuretics and salt abstinence in cardiac failure is stressed.

F. McCONNELL

So-Called "Lupus Erythematosus Inclusion Phenomenon" of Bone Marrow and Blood. L. Berman, A. R. Axelrod, H. L. Goodman, R. I. McClaughry; Amer. J. of Clinical Path. **20**: 403-418, 1950.

The authors review the features and present original observations of the "lupus erythematosus phenomena." The presumptive morphological evidence of acute lupus erythematosus is the LE phenomena which can be obtained with ordinary laboratory methods of making smears from centrifuged, heparinized, oxalated or citrated blood or marrow of the patient with the disease. This phenomena is rare or absent in other types of lupus erythematosus, in other diseases of the so-called collagen disease group or in unrelated conditions.

The phenomena includes the appearance of:

- (a) leucocytes containing injected masses of cloudy structure presumably mostly of nuclear origin which show various degrees of alteration of density and staining reaction (LE cells);
- (b) free, non-phagocytized masses identical with those seen in LE cells;
- (c) and clusters of neutrophils about masses of cellular debris.

Their observations support the concept of Klemperer et al that the cloudy masses are identical with the "hematoxylin-staining bodies" in the tissues of patients with the disease but not the view that the masses are the result of "depolymerization" of desoxyribose nucleic acid.

Plasma from patients and postmortem serum of patients with acute lupus erythematosus is capable of provoking the LE phenomena when added to suspensions of marrow cells from normal persons, patients with various diseases and from various laboratory animals. The active factor of LE plasma (LE factor) appears to reside in the gamma globulin fraction. This *in*

vitro reaction can form the basis for a simple and convenient adjunct to the laboratory diagnosis for acute lupus erythematosus.

G. HIRAKI

Ulcerative Colitis. J. W. Paulley; Gastro-Enterology, **16**: 566-570, 1950.

In 173 cases of ulcerative colitis, psychological factors were found to be of great etiological significance. By careful history taking, the author et al. investigated allergic, deficiency, septic, dysenteric and streptococcal factors, only to find them essentially negative.

In the vast majority of cases (99 out of the last 100 investigated) the disease was found to be associated with a well-defined personality related to the effect of an over-possessive mother and the secondary influence of a weak or excessively stern father.

The caricature of utter dependence has neurotic tendencies and reacts to stresses in an emotionally immature way throughout his life. The excessive maternal possessiveness was found to be characteristic of Jewish families and the incidence of colitis among Jews was twice the expected rate.

Besides standard medical regimen, the author advises psychotherapy with reassurance and the assumption on the part of the physician of a mother-substitute role with assistance of the patient to grow up emotionally and to open his eyes to his own capacity.

The relation of personality traits to Crohn's disease, idiopathic steatorrhea, colitis and duodenal ulcer is material for further investigation.

M. MENDELSON

Increasing Bacterial Resistance to the Antibiotics. D. C. Levinson, G. C. Griffith, H. E. Pearson: 668-675, Nov., 1950.

The authors have made a detailed study of 65 cases of bacterial endocarditis, including 46 cases of streptococcal and 19 cases of staphylococcal etiology. Bacterial sensitivity studies were carried out in most cases to determine the minimal concentration of antibiotic necessary to inhibit blood cultures *in vitro*.

In 20% of the streptococcal cases the bacteria were resistant to penicillin and this meant that 1.5 to 25 units of penicillin per c.c. were necessary to inhibit bacterial growth in cultures. In the cases where the bacteria were sensitive to penicillin, blood levels of 4 to 5 times the *in vitro* culture inhibition level were maintained for 21 days. This effected a "cure" in 29 out of 37 such cases, although 5 of these died within 1 year of congestive heart failure. Another 5 died before the end of therapy. The other 3 cases did not respond to this therapy, yet they were cured, 2 of them by massive doses of penicillin and the third by streptomycin. The workers felt that massive doses should be used rather than risk the toxic effects of long-maintained streptomycin therapy.

Staphylococcus aureus was responsible for 10 cases with 7 deaths, and 6 deaths occurred in the 9 cases of *staphylococcus albus* endocarditis. In general, the former were acute and fulminating and often fatal in 3 weeks, whereas the latter were more chronic and death occurred in from 3 weeks to 10 months. In 15 of the staphylococcal cases, bacterial sensitivity studies indicated that in 66% of the cases the bacteria were resistant to penicillin to the extent that 1 to 200 units of penicillin per c.c. were necessary for the *in vitro* inhibition of growth. Of particular interest was one case in which bacterial sensitivity at first was measured at 0.1 units penicillin per c.c. and this rose to 60 units per c.c. in 2 weeks.

A very limited supply of aureomycin was used to cure 2 patients in whom staphylococci, markedly resistant to penicillin, had been demonstrated. In another case increasing resistance to aureomycin was shown. Whereas 180 units of penicillin or 5 mg. of aureomycin per c.c. of culture were sufficient for inhibition at first, it was found after treatment with aureomycin for some time that 40 mg. per c.c. was necessary for the *in vitro* test.

The authors, therefore, have reported penicillin resistance in 20% of the streptococcal cases and 66% of the staphylococcal cases. They also recall that in 1946 Barber found that 14% of staphylococcal infections were resistant to penicillin and in 1948 this had risen to 59% at the same hospital.

The development of drug fastness in staphylococci during treatment with both penicillin and aureomycin has been demonstrated.

S. LIBRACH

Basal Metabolic Rate and the Plasma Cholesterol in Thyroid Disease, Elmer Bartels, J. Clin. Endocrinology, 10: No. 9, 1950.

The two most widely used laboratory aids to the diagnosis of thyroid disease are critically examined and evaluated in this article in the light of their false positive and false negative results.

A. BMR

- a. Technical carelessness or the anxiety of the patient may lead to results that are not truly basal.
- b. Pathological conditions such as fever or chronic alcoholism may produce a rise in the BMR.
- c. In a recent series of 1000 cases of hyperthyroidism 8% had a BMR below plus 20%. A normal BMR may be found occasionally even in severe hyperthyroidism.
- d. Pathological conditions such as Addison's disease or hypopituitarism may be associated with a BMR as low as minus 30%. A few normal individuals have BMR's this low.
- e. BMR's depressed less than 10% were found in 3.5% of one series of cases of myxoedema.

B. Plasma Cholesterol. The normal range of values for plasma cholesterol is wide and therefore an individual determination is difficult to interpret.

- a. Pathological conditions such as nephrosis or diabetes mellitus are associated with a high plasma cholesterol. Familial cholesterolaemia is also described.
- b. Profound myxoedema may occur in the presence of a normal plasma cholesterol.
- c. Conditions such as acute infections with fever or low caloric diet may give rise to a low plasma cholesterol.
- d. Mild hyperthyroidism is usually with a normal plasma cholesterol.

The author concludes that the BMR is more useful in the diagnosis of hyperthyroidism and the plasma cholesterol in the diagnosis of myxoedema.

G. GRAY

SURGERY

Chronic Occlusion of the Bifurcation of the Aorta. A. B. Ortner, R. A. Griswold, *Archives of Surgery*, 61: 793-803, 1950.

Occlusion of the terminal aorta usually occurs suddenly as a result of a saddle embolus but can occur gradually as a result of a progressive thrombosis of an arteriosclerotic aorta. The authors discuss and present 3 cases typifying the latter which they designate "Leriche's Syndrome". This is characterized by the following clinical symptoms:—

1. Easy fatigability of the lower extremities.
2. Intermittent claudication.
3. Pain in the calves and thighs and frequently in the hips and the lower part of the back.
4. Coldness of the feet.
5. Inability in the male to have or maintain erection.

and the findings on physical examination of:—

1. Absence of pulsation in the lower segment of the aorta and arteries of the lower extremities.

2. Pallor of the skin of the feet and legs which may be present even when they are dependent.

3. Symmetrical atrophy of the musculature of the lower limbs.

4. Trophic changes of the skin and gangrene which is a terminal finding. Associated with the local changes there may be an elevation of the blood pressure. This syndrome can occur at any age but is usually found in white males in their fifties. Diagnosis is confirmed by aortography which reveals the exact level of the proximal extension of the thrombosis.

Treatment was directed towards the improvement of circulation distal to the obstruction by release of vasospasm. Lumbar ganglionectomy was found to be the most efficient means of reducing the vasoconstriction of the collateral channels to the arterial beds of the lower extremities. Where feasible, segmental aortectomy was done according to tenets set down by Leriche; but the authors argue if resection is done only to abolish the aorteroarterial reflex which may arise from

sympathetic fibres in the wall of the aorta, this may be more easily and safely accomplished by periaortic stripping.

E. TOGURI

Comminuted Fractures of the Os Calcis.

Edwin O. Geckeler, *Arch. of Surgery*, 61: 469-476, 1950.

The treatment of comminuted fractures of the heel ranges from practically no treatment to excision of the heel or to amputation on account of permanent pain. The author makes a simple classification of these injuries for their proper treatment. Fractures of the os calcis are divided into type A, fractures which do not involve the articular surfaces and type B, fractures involving articular surfaces. An analysis of 50 consecutive cases is made to illustrate the two types.

Type A. Fractures without displacement and not involving the articular surface are treated with early, protected weight bearing in a walking cast with the foot held in equinus position. More severe injuries with displacement are treated by Hermann's method of reshaping in which a Steinmann pin is inserted through the posterior tuberosity to correct angulation and the spreading laterally corrected by manual pressure. In 20 of 23 cases there is little or no permanent disability.

Type B. The comminuted fractures which involved the articular surfaces are treated routinely by correction of the deformity and early arthrodesis; thus the permanent pain and disability usually anticipated are minimized. Those fractures with considerable displacement and compression deformity are treated by early arthrodesis through a lateral exposure and packing with cancellous bone chips to correct the deformity. In 19 of 27 cases the results are good. The average time that elapsed before return to employment was 6.1 months and the permanent disability rating is 11%.

The author stressed that many of the injuries reported in this paper are non industrial cases and suggests a higher percentage of disability in a series of industrial workers with similar injuries.

R. E. STOKES

PAEDIATRICS

Problems Around Psychotherapy with Children. S. A. Szurek, *J. of Paediatrics*, 37: No. 4, 1950.

Young childhood is a state of dependency. The young individual is more or less completely egocentric while at the same time is more or less completely unable to satisfy all his egocentric needs by his own efforts. Some of these needs must be satisfied in order to survive, but others such as affection, warmth and acceptance as belonging to the family are not necessary for life, but if not satisfied will inevitably affect his later psychological adjustment.

When problems arise, the parents require essentially the same therapeutic help as the child, since unhealthy attitudes of the parents cause unhealthy attitudes in the child. Success when dealing with the child alone depends on:

1. The age of the child—greater success with older children.
2. Frequency and intensiveness of therapeutic measures.
3. Environment of the child during treatment e.g. special schools.

However a great number of disturbed children are in the first decade of life and most parents cannot afford special treatment. Therefore, most psychiatric clinics for children insist on therapeutic sessions once a week with one or both parents.

Obstacles in helping both the parent and the child are:

1. Inadequate training of the therapist.
2. Frequent custom of assigning the parent to a social worker while the psychiatrist works with the child. Mere "advice" or "suggestions" to the parent are not of much value; and the neurotic entanglement of the parent with the child requires expert psychiatric skill for its resolution.
3. Persons attracted to therapeutic work with children's problems often have a basic over-identification with the child; i.e., an attitude that the parent is the enemy of the child. This often encourages the child to self-destructive rebelliousness against the parent either by impulsive behavior or an increase in anxiety or both.
4. The problem of helping the parent to consider seriously and accept therapy for himself.

The best environment for actually carrying out psychotherapy with children is in the daily situation but the art in obtaining good results can be learned only in the practise of the skill.

J. R. TOPP

Course and Prognosis of Tuberculosis in Children. E. M. Lincoln, *Amer. Journ. of Medicine*, 623, Nov., 1950.

The author gives a general discussion of tuberculosis in children, mainly in untreated cases, giving some figures from the Children's Chest Clinic of Bellevue Hospital.

The prognosis in this group has been greatly improved by chemotherapy of the complications previously responsible for the high mortality rate. By this method of selection of cases, treating less than 25% of the ward population, it has been possible to reduce the case fatality for the past three and one-half years to 2.9%.

She concludes that an understanding of the pathogenesis of tuberculosis, of the clinical pictures produced by the disease and of the prognosis of untreated cases remains of great importance, not only in the proper selection of cases, but also in evaluation of the results of therapy.

D. A. SMITH

Valvular Thrombotic Vegetation in New-born (Foetal Endocarditis). R. MacDonald, *A.M.A. Archives of Pathology*, 50: 538-544, 1950.

The author reports the third case, accompanied by histological data, to be reported in the literature of a fresh vegetation occurring on a cardiac valve in a newborn infant.

The 15 year old negro mother of the infant was found, 5 months ante-natal, to be suffering from syphilis and was adequately treated with penicillin but the Wasserman test remained positive in dilution of 1:32. The only other physical finding was a scattered pigmentation of the skin noted primarily on the arms. The delivery was normal.

The infant developed respiratory distress 6 hours post-natal. At this time, a harsh systolic murmur was heard over the

precordium. The infant died 17 hours after birth. The foetal blood was serologically positive for syphilis. Post mortem, a red granular vegetation 8-5-4 mm. was attached to the atrial surface of the marginal cusp of the tricuspid valve. No bacteria were demonstrated microscopically or by smear.

Microscopically the thrombus was hyaline and unorganized. In the lungs were a few similar small hyaline emboli, found in small pulmonary arteries.

Syphilitic etiology is considered and rejected due to lack of other lesions suggestive of syphilis. Other intrauterine infective agents are suggested and rejected as possible causes. The etiology cannot be decided upon. The vegetation may represent a bland thrombus forming on surface irregularities, or it may be identical with the exudative type of verruca found in degenerative verrucal endocardiosis.

F. T. H. PORTER

OBSTETRICS

Presacral Neurectomy in the Treatment of Dysmenorrhea. J. J. Fertitta, S. Fertitta, K. T. Miller, *Surgery*, **10**: 729-733, 1950.

A review of 125 consecutive cases of intractable dysmenorrhea treated by presacral neurectomy is presented. Dysmenorrhea is said to affect approximately 25% of all women to some degree between the ages of 14 to 40. The various therapeutic agents and measures are of limited value in dysmenorrhea, a symptom of very diverse etiology.

Dysmenorrhea without gross pelvic pathology is generally classified as primary or functional, and secondary when there is some demonstrable pathologic process in the pelvis or pelvic organs. Clinically, it is sometimes difficult to differentiate between primary and secondary types because they often run concurrently.

In the series reviewed 80.4% were classified as the primary type of uterine dysmenorrhea. Cervical dilatation for 2 days prior to consecutive menses was attempted in 80% giving only temporary relief. En-

docrine therapy was given to 90% of the primary groups and in 70% of the secondary groups, but the treatment failed to produce sustained satisfactory results.

In the secondary group, evidence of chronic pelvic inflammatory disease was present in 75% of cases and varying degrees of endometriosis were found in 20%. All grossly pathologic ovaries were removed with oophorectomy or salpingo-oophorectomy being performed in 71.4% of cases of secondary dysmenorrhea. Uterine suspension was performed in 48% of primary type and 58% of secondary type of dysmenorrhea.

There were no significant postoperative complications. Approximately 60% have noted improvement in the regularity of the menstrual cycle and none have had any adverse changes. 20% have felt a definite improvement in libido. Normal pregnancies and deliveries have occurred subsequent to operation in 38% of the total series in the last 7 years.

With operation 88.5% have received complete relief of primary dysmenorrhea, whereas 75% of patients with secondary dysmenorrhea have been free of pain. In 8.6% of the primary group and 20% of the secondary group they were improved to the extent that they were no longer confined to bed during their regular periods. With less than 50% improvement following the operation it was considered a failure, and 3.8% of the primary and 5% of the secondary group were considered as such.

The authors conclude that in carefully selected cases complete resection of the superior hypogastric plexus results in a high percentage of cures.

W. W. BELCH

Elective Induction of Labor. T. L. Husband, *Amer. J. of Obst. and Gyn.*, **60**: 900-903, 1950.

The author compares 100 cases of normal spontaneous deliveries with 100 cases of elective induction. His criteria for selecting cases for induction were: (a) no cephalopelvic disproportion; (b) the pregnancy must be near or at term; (c) vertex should be presenting; (d) the head must not be floating; (e) cervix must be thin and soft and open at least 1 cm.

The method of induction was mechanical rupture of the membranes with the use of small doses of pitocin in 49 of the 100 cases. The results obtained were that in the induced group on the average the length of labor was shortened and the temperatures and morbidity rate were lower. He

concludes by stating that induced labor produces no added risk IF DONE AT THE PROPER TIME. It relieves much anxiety and apprehension, particularly in those patients who live far from the hospital and those with a history of short labors.

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NEWS AND NOTES

MEDICAL SOCIETY

The response of students of the Medical Faculty to the All Varsity Aid programme for students of India and Pakistan has been generous and wholehearted. The leadership in this campaign has to a great extent come from the faculty. Prominent medsmen on the executive are Syd Wax as chairman and George Morrison as vice chairman. Lou Quitt has been appointed chairman of the Meds All Varsity Aid Committee. This movement has sparked an ever growing interest in international affairs with special emphasis on student conditions in under privileged areas. Special discussion groups and lectures have taken place in order to educate and stimulate Medical students along these lines.

As part of the Medical Faculty's contribution to AVA, an extensive campaign is now underway to secure books and equipment for the Dow Medical School of the University of Sindt, in Karachi Pakistan. Already an impressive array of books and instruments have been donated by various departments of the faculty and a special appeal is being made to all graduates and undergraduates for their help in this worthy cause. Text-books, reference books, instruments or financial aid may be sent to: Mr. L. Quitt, Chairman, Medical All Varsity Aid Committee, Rm. 107, Anatomy Bldg., University of Toronto.

* * *

The 1950 edition of Daffydil played before capacity audiences in the Hart House Theatre from December 11 to 14. The show, representing the combined talents of approximately two hundred students was the high-light of the pre-christmas term. Chairman Bill Monk and Director Sam Bogoch deserve special commendation for this most entertaining production.

* * *

During Homecoming weekend Meds-men played an active part in welcoming returning graduates. The Medical entry in the Annual Homecoming Parade was awarded first prize. This colorful entry

used as a theme, "Two thousand years of Medical Progress". Medical entertainers were outstanding in the Homecoming Stadium Show.

* * *

The initial meeting of the Oslerian Society, which is being formed under the auspices of the Arts and Letters Club, is planned for early in the new year. All undergraduates who are interested in the History of Medicine and allied subjects are invited to support this organization. The Debating Society is holding informal discussion groups and debates and interested students are reminded to watch for announcements.

* * *

CAMSI medical films are being shown every Wednesday from 1 to 2 o'clock in the Theatre lecture room at the Toronto General Hospital. Excellent films on a wide variety of subjects are presented and students are reminded to take advantage of this service.

The January issue of the CAMSI Journal is being produced by the University of Toronto branch.

* * *

Honouring the women of Meds 5T6, the Medical Women's Alumnae Association held its annual tea for freshettes on November 30th. It was well attended and was one of the most successful events of the year.

The girls basketball team ended the season at the head of their league and were just one game short of the semi finals.

* * *

For the second successive year a medsmen has been awarded the Johnny Copp Memorial Trophy. This award is emblematic of the highest honour that can be paid to a University of Toronto Football player. In 1949-50 season, Fraser (Moose) Mustard was the recipient and this year Johnny Evans, the popular three year grid veteran was the unanimous choice for the award. Evans was adjudged by his teammates to be the most valuable member of

the team on the basis of his sportmanship, character and playing ability.

* * *

The Meds At Home will take place at the Royal York Hotel on Feb. 14th. Medicos are actively at work on the various committees at the moment and students are asked to support the many preparations for this occasion.

* * *

FACULTY

The announcement has been made of recent undergraduate scholarship winners. The Baptie Scholarship has been awarded to Mr. R. L. Ruderman, Meds 5T3; Mr. K. I. Dechert, also of Meds 5T3, received the B'nai B'rith Scholarship. Recipients of Medical Alumni Scholarship are Mr. E. M. Culp, Meds 5T4; Mr. G. Y. Hiraki, Meds 5T3 and Mr. R. F. Brown, Meds 5T2. The Charles E. Frosst Scholarship was awarded to Mr. E. Klein of Meds 5T1 and Mr. G. J. Fyffe received the Scottish Rite Mason's Bursary.

The Reeve Prize for post graduate scientific research work has been awarded to W. Robert Harris, M.D.

* * *

Dr. H. B. Van Wyck has been appointed Professor Emeritus of Obstetrics and Gynaecology.

* * *

Dr. J. K. W. Ferguson, Professor of Pharmacology and Head of the Department was recently elected president of the Canadian Physiological Society at its 14th annual meeting at the University of Ottawa.

* * *

A refresher course for General Practitioners will be held at the Toronto General Hospital from January 25-27th. Application for enrolment may be made to the Secretary, of the Refresher Course for General Practitioners, Toronto General Hospital. The fee is \$15.00.

A refresher course in Ophthalmology and Otolaryngology, under the auspices of the Faculty of Medicine will be held from January 29—February 3rd.

The Canadian Hospital Association has announced plans for a two year correspondence course for hospital administrators. The course will begin early in 1951. Summer and winter sessions are scheduled with the summer sessions of 3 to 5 weeks to be held on the University of Toronto campus. Cost per student will range from \$40 to \$50.

* * *

Recent visitors to the university included Prof. F. A. R. Stammers, Professor of Surgery, Queen Elizabeth Hospital, Birmingham and Dr. M. F. A. Woodruff, Dept. of Surgery, University of Aberdeen.

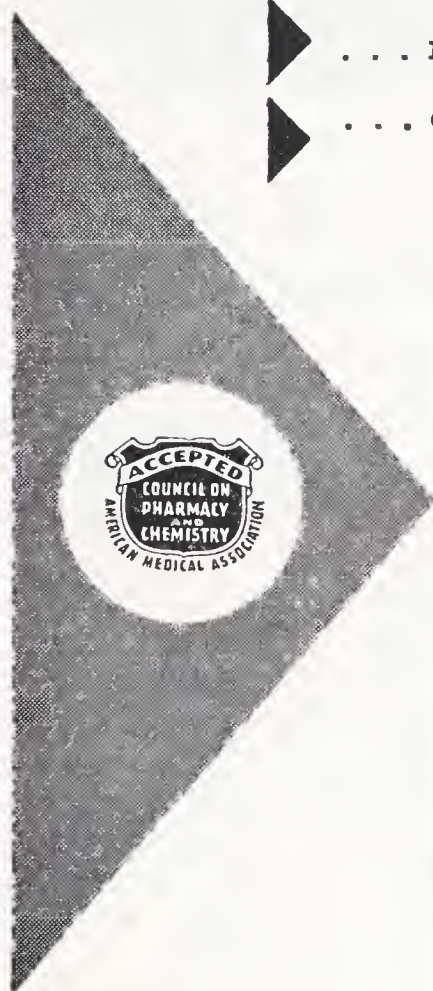
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Lysine	9.78	Threonine	2.17
Histidine	6.04	Serine	2.21
Phenylalanine	2.58	Glycine	2.34
Tyrosine	2.20	Protein	4.5-5.5

TABLES OF COMPOSITION AND NUTRITIVE VALUE OF FOODS

The data in the following tables have been gleaned from the sources given below:

- Proximate Composition of American Foodstuffs, Chatfield, C., and Adams, G. L., 1940
- Food Values of Foods, USDA, 1943

Partial table of contents

- Fat-Soluble and Water-Soluble Vitamins . . . Vitamin Assay Methods . . .
- The Essential Elements . . . Proteins and Essential Amino Acids . . . Essential Amino Acid Content of Protein Foods . . .
- Conditioning Factors in Nutritional Disease . . . Chemical Tests for Detection of Malnutrition . . . The Metabolism and Action of Foods . . . Dietary Toxicology . . .
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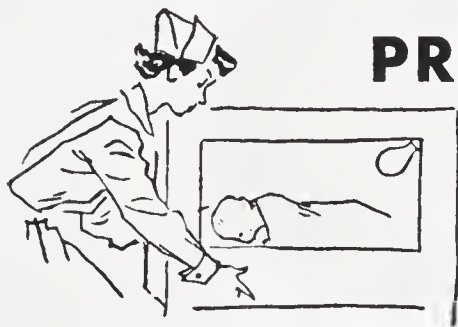


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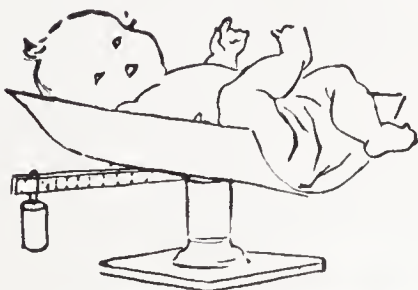
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1. Jeans, P. C. and Marriott, W. M.: *Infant Nutrition*: 245, C. V. Mosby Co., 1947
2. Leverton, R. M. and Clark, G.: *Meat in the Diet of Young Infants*, J.A.M.A., 134: 1215-1216 (August) 1947

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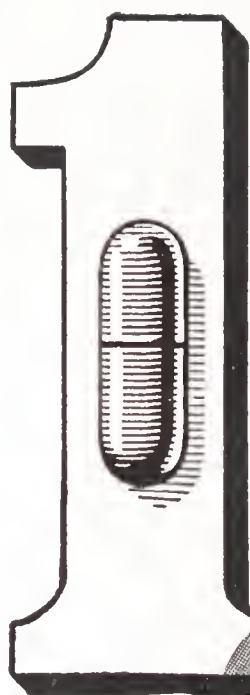


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Vitamin A.....	1,666 Int. Units	200,000 Int. Units
Thiamine HCl.....	0.67 mg.	6,664 Int. Units
Riboflavin.....	1.0 mg.	2.67 mg.
Niacinamide.....	6.67 mg.	4.0 mg.
Ascorbic acid.....	15.0 mg.	26.67 mg.
		60.0 mg.

DOSE

Up to six capsules daily.

Literature and clinical specimens on request.

MODES OF ISSUE

Boxes of 50 and 100 capsules.

IMPORTANT

Ostoforte Compound and Ostoforte should not be administered to patients with "impaired kidney function" nor to children in repeated doses.

For those cases where the normal diet is adequate in vitamin B factors and vitamin A.

"OSTOFORTE"

S.E.C. No. 651 "Frosst"

Each capsule contains 50,000 I.U. vitamin D.

Charles E. Frosst & Co.
MONTREAL CANADA





"PAXIL"

"Frosst" brand of *Adiphenine HCl.

with

"NOCTINAL"

"Frosst" brand of Butabarbital N.N.R.

***Quiets* SMOOTH MUSCLE SPASM**

- has good antispasmodic effect on intestine, gall bladder, ureter, bladder and uterus, as demonstrated on these organs and on isolated preparations;
- is relatively non-toxic;
- is non-mydriatic when taken orally;
- does not seriously depress salivary secretion.

In spastic conditions associated with emotional instability, generalized vagotonia and certain other circumstances, the administration of a small amount of barbiturate is often desirable. This barbiturate should have a duration of effect intermediate between the very short-acting ones, such as pentobarbital, and the very long-acting ones such as phenobarbital. Noctinal ("Frosst" brand of Butabarbital N.N.R.) has such activity, and when combined with PAXIL provides a very useful therapeutic agent.

"PAXIL" with "NOCTINAL"

S.C.T. No. 426 "Frosst"

Paxil..... 50 mg.
Noctinal..... 15 mg.

"PAXIL"

S.C.T. No. 425 "Frosst"

Paxil..... 75 mg.

DOSE

1 to 2 tablets 3 times daily.

MODES OF ISSUE

Bottles of 30 and 100 tablets.

*Diphenylacetyldiethylamino-ethanolester hydrochloride.

Complete therapeutic information and clinical samples available on request.

Charles E. Frosst & Co.
MONTREAL CANADA





Return to happiness...

At the time of life when so many women are distraught by menopausal symptoms, oral Conestron therapy restores joy of living and brings a feeling of well-being that is a comfort to all concerned.

WELL TOLERATED • NON TOXIC • ORALLY ACTIVE

CONESTRON

T A B L E T S

CONJUGATED ESTROGENIC SUBSTANCE (EQUINE) WYETH

.625 mg. and 1.25 mg. tablets
Bottles of 100 and 500



these are the facts

- 1** **CHLOROMYCETIN[®]** is the first and only antibiotic to be prepared synthetically on a commercial scale.
- 2** **CHLOROMYCETIN** is rapidly effective in a wide range of infectious diseases, including urinary tract infections, bacterial and atypical primary pneumonias, acute undulant fever, typhoid fever, other enteric fevers due to salmonellae, dysentery (shigella), Rocky Mountain spotted fever, typhus fever, scrub typhus, granuloma inguinale, lymphogranuloma venereum.
- 3** **CHLOROMYCETIN** is well tolerated
The progress of the patient is, therefore, unhindered by serious side reactions.
- 4** **CHLOROMYCETIN** is administered by mouth or by rectum. Since the need for injection therapy is eliminated, treatment is simple and convenient.
- 5** **CHLOROMYCETIN** controls many diseases unaffected by other antibiotics or the sulfonamides.
- 6** **CHLOROMYCETIN's** remarkable antibiotic activity results in quick recovery, smooth convalescence, and rapid return of the patient to his customary activities. The end result is greater economy.

Chloromycetin

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(chloramphenicol, Parke-Davis),
is supplied in Kapseals[®] 250 mg.,
and in capsules of 50 mg.

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